

DOCKET NO: 241154US

IN THE UNITED STATES PATENT & TRADEMARK OFFICE

IN RE APPLICATION OF :
YUUKI TAUCHI, ET AL. : ATTN: EXAMINER COMBS-
MORILLO
SERIAL NO: 10/633,550 :
FILED: AUGUST 5, 2003 : GROUP ART UNIT: 1742
FOR: AG BASE ALLOY THIN FILM AND SPUTTERING TARGET FOR FORMING
AG BASE ALLOY THIN FILM

COMMENTS UNDER 37 C.F.R. §1.56

COMMISSIONER FOR PATENTS
ALEXANDRIA, VIRGINIA 22313

SIR:

Applicants would like to draw the Examiner's attention to (a) Japanese application No. 2001-184725 (hereinafter referred to as "JP '725") (b) Japanese application No. 2000-57627 (hereinafter referred to as "JP '627") and (c) U.S. patent application publication No. U.S. 2002/0034603 A1 (hereinafter referred to as "U.S. '603") with regard to the patentability of the claims of the present application. Copies of JP '725 and JP '627 were submitted in the Information Disclosure Statement (IDS) filed on March 9, 2004. An English translation of each of those references, and a copy of U.S. '603, are enclosed in the IDS submitted herewith.

Applicant's U.S. counsel has reviewed the patentability of Claims 23-33 of U.S. patent application publication No. 2004/0258872 A1 (hereinafter referred to as "U.S. '872")¹ in view of JP '725, JP '627 and U.S. '603, as discussed below. Since the claims of the

¹ A copy of U.S. '872 was submitted with the Information Disclosure Statement filed on September 13, 2005.

present application are based on Claims 23-33 of U.S. '872, JP '725, JP '627 and U.S. '603 are also pertinent to the patentability of the claims of the present application. JP '725, JP '627 and U.S. '603 were published July 6, 2001, February 25, 2000 and March 21, 2002, respectively. Therefore, each of those references qualify date-wise as prior art against the present application under 35 U.S.C. §102(b). Additional features of those references are discussed below.

JP '725 may anticipate, or at least render obvious, Claims 23-25 of U.S. '872 by disclosing an optical storage medium comprising a first layer having a pattern of features in at least one major surface and a first high reflective layer adjacent the feature pattern made of a silver-bismuth metal alloy Ag_xBi_w where $x=0.9999$ and $w=0.0001$. Moreover, the reference specifically discloses a range for w of $0.0001 < w < 0.05$. This disclosure may be sufficient to anticipate or render obvious the subject matter of Claims 23-25 of U.S. '872². JP '725 presents a very limited number of alloying metals and compositional amounts thereof, and the use of silver-bismuth films in optical storage media was well known, as supported by JP '627.

Claims 26-28 of U.S. '872 may be invalid over the combination of JP '725 in view of U.S. '603. U.S. '603 appears to disclose all the subject matter of Claims 26-28 of U.S. '872, except for the use of a silver-bismuth alloy as reflective layers. However, the reference does specifically suggest the use of silver-aluminum and silver-manganese alloys as reflective layers, both of which are described in JP '725. As a result, it may have been obvious to one of ordinary skill in the art at the time the invention claimed in U.S. '872 was made to provide a device as described in U.S. '603 using first and second layers each having a pattern of features, a first semi-reflective layer adjacent the first layer, and a second highly reflective

² In re Petering and Fall, 133 USPQ 275, (CCPA, 1962); Ex parte Lee, 31 USPQ2d 1105 (BdPatApp&Int, 1993).

layer adjacent the second layer, where the same silver-based alloy is used to make both reflective layers and is a silver-bismuth alloy as described in JP '725. The use of silver-bismuth films in optical storage media appears to have been well-known, as demonstrated by JP '627.

JP '725

JP '725 relates to an optical storage medium having a first layer made of polycarbonate with a pattern of features thereon (see, e.g., the paragraph bridging pages 11 and 12 and Example 1 at page 15 of the English translation) and an adjacent high reflective layer of predominantly silver (Ag) with up to 5 at% Bi. See, e.g., Claim 1 at page 1 and pages 10, 15 and 16 of the English translation. Other metals disclosed for use in combination with silver include aluminum and manganese. See, e.g., Claim 1 at page 1.

JP '627

JP '627 relates to the use of a silver-bismuth film as a reflective layer on polycarbonate substrates having a pattern of features useful as optical storage media. See, e.g., the claims and pages 5, 6, and Example 4 of the English translation.

The reference discloses a light reflective film containing at least one element selected from a first group consisting of Al and Ag and at least one element selected from a second group consisting of Bi, Rh and Zn. See Claim 1 at page 1 of the English translation.

The metal of the first group is the main component. The film contains 1 to 49% of the metal of the second group, based on the number of atoms of the total metal of the first and second groups. See Claim 2 at page 1 of the English translation.

Example 4 of JP '627 describes the use of an Ag-Bi alloy film which contains 15 at % of Bi. See pages 19-20 of the English translation.

Example 7 of the reference describes the use of an Ag-Bi-Zn reflective film which contains about 5 at % of bismuth. See page 22 of the English translation.

U.S. '603

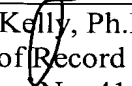
U.S. '603 lists the same inventor as U.S. '872, and shares many of the same detailed descriptions of device embodiments and Figures. In particular, U.S. '603 includes as Figure 3 the same Figure 3 present in U.S. '872 showing first and second layers each having a pattern of features, a first semi-reflective layer adjacent the first layer, and a second highly reflective layer adjacent the second layer, where the same silver-based alloy is used to make both reflective layers. See, e.g., paragraphs 0045 and 0092 of U.S. '603. U.S. '603 specifically discloses the use of silver-aluminum and silver-manganese alloys as reflective layers. See, e.g., paragraphs 0025 and 0027.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,
MAIER & NEUSTADT, P.C.
Norman F. Oblon

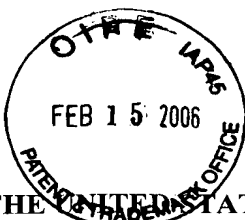
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Docket No. 241154US0



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN RE APPLICATION OF: Yuuki TAUCHI, et al.

SERIAL NO: 10/633,550

GAU: 1742

FILED: August 5, 2003

EXAMINER: J.C. MORILLO

FOR: AG BASE ALLOY THIN FILM AND SPUTTERING TARGET FOR FORMING AG BASE ALLOY THIN FILM

INFORMATION DISCLOSURE STATEMENT UNDER 37 CFR 1.97

COMMISSIONER FOR PATENTS
ALEXANDRIA, VIRGINIA 22313

SIR:

Applicant(s) wish to disclose the following information.

REFERENCES

- ☒ The applicant(s) wish to make of record the references listed on the attached form PTO-1449. Copies of the listed references are attached, where required, as are either statements of relevancy or any readily available English translations of pertinent portions of any non-English language references.
- ☐ A check or credit card payment form is attached in the amount required under 37 CFR §1.17(p).

RELATED CASES

- ☐ Attached is a list of applicant's pending application(s), published application(s) or issued patent(s) which may be related to the present application. In accordance with the waiver of 37 CFR 1.98 dated September 21, 2004, copies of the cited pending applications are not provided. Cited published and/or issued patents, if any, are listed on the attached PTO form 1449.
- ☐ A check or credit card payment form is attached in the amount required under 37 CFR §1.17(p).

CERTIFICATION

- ☐ Each item of information contained in this information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this statement.
- ☐ No item of information contained in this information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application or, to the knowledge of the undersigned, having made reasonable inquiry, was known to any individual designated in 37 CFR §1.56(c) more than three months prior to the filing of this statement.

DEPOSIT ACCOUNT

- ☒ Please charge any additional fees for the papers being filed herewith and for which no check or credit card payment is enclosed herewith, or credit any overpayment to deposit account number 15-0030. A duplicate copy of this sheet is enclosed.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,
MAIER & NEUSTADT, P.C.
Norman F. Oblon

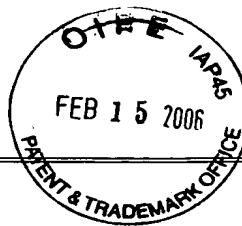
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Form PTO 1449 (Modified)		U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE		ATTY DOCKET NO. 241154US0		SERIAL NO. 10/633,550	
LIST OF REFERENCES CITED BY APPLICANT				APPLICANT Yuuki TAUCHI, et al.			
				FILING DATE August 5, 2003		GROUP 1742	
U.S. PATENT DOCUMENTS							
EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE IF APPROPRIATE
	AA	2002/0034603	03/21/02	NEE			
	AB						
	AC						
	AD						
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FOREIGN PATENT DOCUMENTS							
		DOCUMENT NUMBER	DATE	COUNTRY	TRANSLATION YES NO		
	AO	JP2000-117871	04/25/00	JAPAN (w/English Abstract)			
	AP	JP2000-057627	02/25/00	JAPAN (w/English Translation)	x		
	AQ	JP2001-184725	07/06/01	JAPAN (w/English Translation)	x		
	AR						
	AS						
	AT						
	AU						
	AV						
OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, etc.)							
	AW	Copy of Office Action from corresponding Korean Application.					
	AX						
	AY						
	AZ					<input type="checkbox"/> Additional References sheet(s) attached	
Examiner					Date Considered		
*Examiner: Initial if reference is considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.							